AUDITOR GENERAL
Alberta

Report of the Auditor General of Alberta

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EDUCATION AND INFRASTRUCTURE—SYSTEMS TO MANAGE THE SCHOOL-BUILDING PROGRAM

AUDITOR GENERAL
Alberta

Mr. David Shepherd, MLA
Chair
Standing Committee on Legislative Offices

I am pleased to submit my *Report of the Auditor General of Alberta—April 2016* on the systems the departments of Education and Infrastructure have to manage the school-building program. This report is being sent to Members of the Legislative Assembly of Alberta as required by Section 20(1) of the *Auditor General Act*.

[Original signed by Merwan N. Saher FCPA, FCA]
Auditor General

Edmonton, Alberta
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Education & Infrastructure—Systems to Manage the School-building Program

EXECUTIVE SUMMARY

Between 2011 and 2014, the government announced three phases in a major program to build and modernize schools. The first, and smallest, phase is largely complete, but several projects in phases 2 and 3 have been delayed. The purpose of this audit was to assess whether the two responsible departments, Education and Infrastructure, are able to adequately plan, deliver and report on the school-building program. Our audit only examined phases 2 and 3 of the program.

In the ten years prior to 2011, Education approved 18 schools per year on average. With phases 1, 2 and 3, the program grew to an unprecedented size—over 230 school projects approved between 2011 and 2014 at an estimated cost of approximately $4.6 billion. The three phases include:

- phase 1: 35 new schools
- phase 2: 50 new schools and 70 modernizations
- phase 3: 55 new schools and 20 modernizations

On October 6, 2015, the government announced delays to about 100 phase 2 and 3 schools originally set for completion between September 2016 and September 2017.

The Minister of Education requested that we examine the processes the departments of Education and Infrastructure used to plan phases 2 and 3 of the program. Our audit included the Department of Infrastructure, since planning, design and construction of schools are the responsibility of both Education and Infrastructure.

The departments' systems and capacity to support the school-building program did not keep pace with the very large growth and complexity of the program. Our audit found that neither department has adequate systems to plan, deliver and report on the program. Both departments were individually responsible for certain aspects of the program, but no one was responsible for overall results, so information on project schedules, including completion dates, was not known. Internal reporting on project progress was lacking, and public reporting was consequently weak.

Both departments have made improvements to their systems in recent months, including improved program oversight; new program reporting; reviews of policies, processes and organizational capacity; and improved funding models. We recommend further changes to improve:

- program governance
- project planning, management and reporting
- cash-flow forecasting systems and processes to support funding requests

In addition to our objective, to assess if the departments have adequate systems to plan, deliver and report on phases 2 and 3, we set out to answer three questions:

1. Were the publicly announced original timelines for completion of schools reasonable?

   The announced school completion dates were not reasonable because they were not based on evidence from sufficient project planning.

   The ministers of Education and Infrastructure announced new schools and modernizations and publicly committed to completion dates before sufficient planning was complete. Although the projects have common features, each is unique, with its own challenges. Each requires proper planning to set a reasonably attainable completion date.

   Neither department had project schedules before announcing the estimated completion dates. For some projects, neither department sufficiently understood project scope or the status of the school site. School jurisdictions decide when a school will open, but neither department confirmed the completion dates with them before publicly announcing the dates.

   We were unable to find written evidence that department staff communicated to the ministers their concerns over estimated project completion dates.

2. Was adequate funding included in the government's March 2015 capital plan to match the announced completion dates of the schools?

   For phase 2, the departments were unable to provide us with documentation of the assumptions used to estimate the funding included in the March 2015 capital plan. Therefore, we cannot conclude whether the March 2015 capital plan had sufficient funding for phase 2.

   For phase 3, the government's March 2015 capital plan did not include sufficient funding in 2015–2016 to match the construction spending required for the projects to meet the publicly announced completion dates. In October 2014, Infrastructure estimated that 70 of the 75 phase 3 schools would start construction during the 2015–2016 fiscal year. However, no construction funding was included in the March 2015 capital plan for the 2015–2016 fiscal year—except for eight starter schools. In other words, construction needed to occur in 2015–2016 to meet the published completion dates, but there was no funding in the 2015–2016 capital plan to pay for the construction.

3. Why has it been necessary to revise school opening dates since the first announcement?

   School jurisdictions and Infrastructure are building the approved schools. Some of the schools will be completed by the originally announced timeline, but many will not. The system failed in two ways. First, ministers made public commitments and announced completion dates without evidence those dates were reasonably attainable. These announcements created false public expectations. Second, department staff did not tell the ministers that the completion dates were not attainable, because they did not have the program oversight and project management systems in place to provide the ministers with supportable evidence that the previously announced dates were not attainable.

SUMMARY

Background

The Department of Education plans the Alberta Kindergarten to Grade 12 (K-12) school system. It receives school jurisdiction capital requests, submits capital funding requests to Treasury Board and recommends capital projects to the Minister of Education for approval. Then it funds approved projects.

The Department of Infrastructure provides Education with technical support for project cost and feasibility before the Minister of Education approves a project. Infrastructure also designs and constructs schools and oversees the delivery of any projects managed by school jurisdictions.

Beginning in 2011, the government made many announcements about building and modernizing schools. The program, estimated to cost $4.6 billion, had three phases:

- phase 1: 35 new schools
- phase 2: 50 new schools and 70 modernizations
- phase 3: 55 new schools and 20 modernizations

The new building program marked a systemic shift for Education and Infrastructure. Prior to 2011, Education approved 18 schools per year on average. School jurisdictions also managed the design and construction of schools, with the exception of schools that were delivered under public-private partnerships. Infrastructure was responsible for overseeing projects managed by school jurisdictions. Now, the school-building program has grown to over 230 schools. At the same time, Infrastructure's responsibilities have grown. As well as overseeing projects managed by jurisdictions, Infrastructure began designing and building schools.

Phase 1, which is mostly complete, was smaller than the later phases. Our audit focused instead on phases 2 and 3.

The following table is a timeline of events for phases 2 and 3.

Timeline	Event	Notes
April 2012	The phase 2 schools are publicly committed to	During an election campaign, the premier[1] committed to building 50 new schools and renovating 70 in the next four years.
November 2012	The plan to deliver the phase 2 schools is presented	The ministers of Education[2] and Infrastructure[3] proposed a plan to the Minister of Finance and President of Treasury Board[4] to deliver the 120 new and modernized schools with completion dates ranging from 2015 to 2017.
April 2013	The government announces the first bundle of phase 2 schools	The 30 schools announced were expected to be completed in 2016.

[1] The Honourable Alison Redford, Premier of Alberta, October 2011 to March 2014.
[2] The Honourable Jeff Johnson, Minister of Education, April 2012 to September 2014.
[3] The Honourable Wayne Drysdale, Minister of Infrastructure, May 2012 to December 2013 and May 2014 to September 2014.
[4] The Honourable Doug Horner, Minister of Finance and President of Treasury Board, May 2012 to September 2014.

Timeline	Event	Notes
November 2013	The Minister of Education is questioned in the Legislature	When asked about the 120 phase 2 schools being completed by 2016, the Minister of Education[2] indicated that he thought they would have more schools than that announced and finished within the term.[5]
December 2013 – February 2014	The government announces the remaining phase 2 schools	The remaining 90 schools that were announced had no completion dates, except for two schools.
February 2014	The Department of Education provides a list of phase 2 schools to the Minister of Education[2]	Only the 30 projects announced in April 2013 had completion dates in September 2016. The other 90 had no completion dates at all.
April 2014	The Minister of Infrastructure is questioned in the Legislature	The Minister of Infrastructure[6] was asked if the new schools would be open by 2016. He indicated they were working very hard to make that so.[7]
July 2014	Education submits a 15-year capital-needs forecast for schools to the Minister of Finance and President of Treasury Board[4]	The forecast indicates that 50 schools needed to be started immediately to meet enrolment pressures. To upgrade and replace aging infrastructure, the government also needed to modernize 10 schools per year.
October 2014	The premier[8] announces phase 3 of the school-building program	Phase 3 included 55 new schools and 20 modernizations.[9] The announcement included $43 million to begin immediate planning. The same day, Infrastructure published the Schools Program Since 2011 report. The report confirmed that 105 of the 120 phase 2 schools would be completed by September 2016. 70 of the 75 phase 3 schools would be completed by September 2017.

[5] Alberta Hansard, November 7, 2013, page 2829.
[6] The Honourable Rick McIver, Minister of Infrastructure, December 2013 to May 2014.
[7] Alberta Hansard, April 7, 2014, pages 343-344.
[8] The Honourable Jim Prentice, Premier of Alberta, September 2014 to May 2015.
[9] The Minister of Education approved two additional schools after the October 2014 announcement, putting the total number of phase 3 projects at 77. For simplicity, we report on only the original 75.

Timeline	Event	Notes
March 2015	Infrastructure launches the school website	The website enabled Albertans to monitor progress on phases 2 and 3, including estimated completion dates. The March 2015 website confirmed 103 of the 120 phase 2 projects would be completed by September 2016 and 70 of the 75 phase 3 schools would be completed by September 2017.
October 2015	The Minister of Education announces that several projects in phases 2 and 3 are delayed	The Minister of Education[10] announced that approximately 100 phase 2 and 3 projects would not meet the original completion date. The October 2015 reporting confirmed that only 59 of the 120 phase 2 projects were expected to be completed by September 2016 and 44 of the 75 phase 3 schools would be completed by September 2017. Estimated delays ranged from two to 24 months, and 12 schools had unknown completion dates.
March 2016	Infrastructure updates the school website[11]	The website reporting confirmed that 59 of the 120 phase 2 projects were expected to be completed by September 2016 and 36 of the 75 phase 3 schools would be completed by September 2017. Fourteen schools had unknown completion dates.

What we examined

In October 2015, the Minister of Education[10] requested we examine the processes used to plan phases 2 and 3 of the school-building program. We assessed whether the departments of Education and Infrastructure have adequate systems to plan, deliver and report on phases 2 and 3 of the school-building program.

Overall conclusion

School jurisdictions and Infrastructure are currently building phase 2 and 3 schools. Some schools will open within the originally announced completion dates, but many will not. The size and complexity of the school-building program grew quickly, and the systems to support the program did not keep pace. Neither Education nor Infrastructure has adequate systems to plan, deliver and report on the school-building program. Education has not established adequate systems to oversee the school-building program. It needs to work with Infrastructure to improve operational processes to ensure that accountability for the results of the program is clear.

[10] The Honourable David Eggen, Minister of Education, May 2015 to present.
[11] http://projects.alberta.ca

What we found

Governance of the program

Education lacks a governance framework sufficient to oversee and manage the school-building program. It was not clear which department was accountable for overall program results, nor was it clear which department reported on the program or the projects, or ensured new schools and modernizations were sufficiently planned before the Minister of Education approved them. The two departments have very few documented policies and procedures between them. Therefore, roles and responsibilities are not clear, project managers use inconsistent practices and there is duplication between the two departments.

Planning and approving new schools and modernizations to existing schools

The ministers announced new schools, replacements and modernizations and committed to completion dates before sufficient planning was complete and, in some instances, before school sites were ready. Therefore, ministers could not know if the announced completion dates were reasonable. The departments do not use a gated project-approval process[12] that would require preliminary planning to be completed before full project approval. As a result, the government often approves and ministers announce projects before their schedule and scope are determined. For example, the premier and minister announced preliminary planning and design funds for phase 3, but on the same day Infrastructure also announced expected completion dates.

Before the Minister of Education approves new schools, school jurisdictions must identify sites that municipalities have serviced. In some cases, the Minister of Education approved schools but Education did not know if sites were available. In other cases, the Minister of Education approved schools but Education knew the municipal zoning was not in place, or that sites had not been serviced and that environmental and geotechnical assessments had not been done.

Education has not defined the planning needed before it can approve a school modernization. In some cases, neither Education nor the school jurisdiction understood the scope of the modernization projects, yet the Minister of Education approved them and the ministers announced completion dates.

Project management controls

Phase 2 was the first time Education used grant agreements[13] for capital projects managed by school jurisdictions. Although grant agreements imposed various requirements on school jurisdictions, they did not specify key project milestones. For example, an agreement would not include a school opening date, even though that date was important to Education, and school jurisdictions did not otherwise agree to opening dates. It took Education on average five months, after Education sent the approval letter, to send grant agreements to school jurisdictions, because grant agreements were new and projects lacked sufficient scope definition when approved. For projects managed by Infrastructure, both departments formally agree to a budget, but there is no agreement on project scope or schedule, or on other project expectations. We also found that Education does not have a clearly defined project change-management system supported by a clear, efficient decision-making process.

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[12] A gated project-approval process separates the project approval process into stages. Each stage has project deliverables that must be provided. Criteria are used to evaluate the deliverables and determine if a project can proceed to the next stage.

[13] Grant agreement—for projects managed by school jurisdictions, there is an agreement between the Government of Alberta and the school jurisdiction on specific terms and conditions of the funding being provided. The terms and conditions include, but are not limited to, the purpose of the funding and the responsibilities of the school jurisdiction. The grant agreement also includes the project scope and budget.

Reporting on the program

In many cases, Infrastructure did not have project schedules to support completion dates it publicly reported, and it did not confirm school opening dates with school jurisdictions. Neither Education nor Infrastructure initially defined the program and project reporting necessary for them to monitor the program. Education began receiving reporting from school jurisdictions on their projects only in August 2015 and from Infrastructure only in March 2015.

In August 2015, Education significantly improved its reporting practices and requested monthly project status reports from school jurisdictions and Infrastructure. In November 2015, Education created the first comprehensive management report on the program. However, while reporting practices have improved, Education still needs to define and report on the program's key performance indicators.

Funding in the government's fiscal plan

In the March 2015 capital plan, Treasury Board moved $860 million in 2015–2016 funding it had previously approved to future years. As a result, Education's phase 3 budget did not align with the construction schedule that would be required to meet the expected school completion dates announced by the government in October 2014. For phase 3, Infrastructure had estimated in October 2014 that 70 of the 75 schools would start construction in the 2015–2016 fiscal year. However, the March 2015 capital plan had no construction funding in the 2015–2016 fiscal year, except for eight starter schools.

For phase 2, the departments were unable to provide us with documentation to support the funding and project progress assumptions used to estimate the funding included in the March 2015 capital plan. Therefore, we cannot conclude whether the plan included sufficient funding or matched the schedule published in October 2014.

Improvements to the school-building program

In recent months, Education and Infrastructure have improved their school-building program systems. Education has improved its program oversight in three ways: it has enhanced its internal reporting, it now receives monthly project reporting from school jurisdictions and Infrastructure, and it has changed its project funding model for projects managed by school jurisdictions. Both departments are working on further improvements to various areas of the program, including clarifying roles and responsibilities, organizational structure, policies and processes as well as data collection and validation.

What needs to be done

Governance of the program

Education must establish the necessary processes to provide oversight of the school-building program. This includes working with Infrastructure to clarify roles and responsibilities and ensuring policies and procedures support these responsibilities.

Planning and approving new schools and modernizations to existing schools

Education needs to implement a gated project-approval process. It should identify the project approval gates, the deliverables required and who is responsible for completing these deliverables.

Project management controls

Education needs to agree on project expectations with school jurisdictions and Infrastructure promptly, including project scope, budget and schedule. Education needs to develop and implement change-management policies and procedures. Education and Infrastructure need to identify who must review and approve project deliverables and why.

Reporting on the program

Infrastructure needs to establish controls to ensure that publicly announced completion dates are supported by project schedules. Education needs to define and report on key performance indicators for the school-building program. Education and Infrastructure need to define the reporting requirements for the school-building program and use a common project reporting system.

Funding in the government's fiscal plan

Education must improve its cash-flow forecasting systems and ensure capital funding requests are supported by assumptions tied to project progress. If Treasury Board adjusts Education's funding request, Education needs to submit its revised plan to Treasury Board for approval. The revised plan should align with the approved funding and should clearly identify the impact on project progress.

Why this is important to Albertans

Albertans depend on Education and Infrastructure to use taxpayers' dollars efficiently to build new schools and replace or modernize existing ones on time. Education and Infrastructure must also give Albertans current and accurate information on the status of school projects.

AUDIT OBJECTIVE AND SCOPE

Our objective was to assess whether Education and Infrastructure have adequate systems to plan, deliver and report on phases 2 and 3 of the school-building program. We also set out to answer three questions in our audit:

1. Were the publicly announced original timelines for completion of schools reasonable?
2. Was adequate funding included in the government's March 2015 capital plan to match the announced completion dates of the schools?
3. Why has it been necessary to revise school opening dates since the first announcement?

We conducted our field work from October 2015 to February 2016. We substantially completed our audit on March 11, 2016. Our audit was conducted in accordance with the *Auditor General Act* and the standards for assurance engagements set by the CPA Canada Handbook—Assurance.

We reviewed the systems at Education and Infrastructure for:

- overseeing the school-building program
- confirming sufficient project planning is completed at the right time
- managing significant changes to project scope, costs and key milestones
- reporting to the public on school completion dates
- making capital funding requests to Treasury Board

We did not examine school jurisdictions' systems for capital projects.

BACKGROUND

Who builds schools

Education and Infrastructure both play roles in building schools under an April 2007 memorandum of understanding. The School Capital Manual describes the roles of each party. It focuses on projects that school jurisdictions manage, but at a high level it is the same process for projects that Infrastructure manages.

How schools are built

School jurisdictions decide on capital needs and priorities and apply for funds. Education uses a model to estimate needs province-wide and requests funding from Treasury Board. Once Treasury Board approves funding, Education ranks requests and recommends a list of projects to the minister. Infrastructure provides support such as cost estimates for priority schools. After government approval, the ministers of Education and Infrastructure give jurisdictions formal written notice of approved projects. The departments use criteria to determine who will manage each project. The criteria consider the school jurisdiction's capacity and previous experience with managing projects. School jurisdictions are managing about 57 per cent of phase 2 projects and 69 per cent of phase 3 projects. Infrastructure is managing about 43 per cent of phase 2 projects and 31 per cent of phase 3 projects.

Time required to build a school

According to Infrastructure, the time typically taken to plan, design, tender and construct a new school once the site is available and serviced, is:

- between 22 and 28 months for a kindergarten to grade six school
- between 34 and 42 months for a high school

The time for a modernization depends on size and complexity. School jurisdictions decide when a school will open. For the purposes of this report, the completion date means the date the school opens.

FINDINGS AND RECOMMENDATIONS

Governance of the program

Background

Both Education and Infrastructure are responsible for the School Facilities Infrastructure program, including the school-building and infrastructure maintenance programs. A joint committee of Education and Infrastructure develops procedures for programs and implements solutions for procedural issues.

RECOMMENDATION 1: CLARIFY ROLES AND RESPONSIBLILITIES

We recommend that the Department of Education improve its oversight of the school-building program by:

- working with the Department of Infrastructure to clarify the roles and responsibilities of each department and establishing supporting policies and procedures
- developing clear decision-making authorities for the program

Criteria: the standards for our audit

The departments should have clearly defined roles and responsibilities for the school-building program. Accountability for results should be clear.

Our audit findings

KEY FINDINGS

- The Department of Education lacks an adequate governance framework to oversee the school-building program.
- As the school-building program grew, the policies and procedures between the Department of Education and the Department of Infrastructure did not keep pace. Policies and procedures are inadequate to manage the current program.
- The Department of Education does not have clear decision-making authorities for the school-building program.

Any $4 billion program will be complicated to run. It will be more complicated if two departments run it, and even more so if they lack clearly defined accountabilities and responsibilities, and supporting policies and procedures.

Governance framework

Accountability for results

The 2007 memorandum of understanding (MOU) says who is responsible for some parts of the program, such as capital-need prioritization, project implementation and program budget. But it does not say who is accountable for overall program results. No one was monitoring overall program results, so no one understood until late September 2015 how many projects would be delayed and by how much.

Although it is not clear if Education or Infrastructure is accountable for the overall results of the school-building program, we believe Education should be accountable. Education is responsible for students' learning, and it provides policy direction and funds to the Alberta Kindergarten to Grade 12 (K-12) school system. While Infrastructure is responsible for parts of the school-building program, its role is limited to technical aspects, including school design and construction. Education cannot meet its responsibilities without the school-building program and should be accountable for the results of the program.

Responsibility for oversight of project planning

School jurisdictions are responsible for preliminary project planning, such as identifying capital needs and priorities and ensuring school sites are identified and serviced. But the MOU does not indicate which department is responsible for providing oversight and ensuring capital projects are planned appropriately before funding is requested from Treasury Board. It also does not say who must ensure that the school jurisdiction has adequately defined the project scope, that sites for new and replacement schools are available and ready, and that the schedule is reasonable.

Education and Infrastructure have standards that define project scope for new and replacement school projects, once grade configuration and capacity is determined. But defining project scope is particularly important for projects with unique characteristics and requirements, such as modernizations or new schools or replacements that have unique requirements requested by school jurisdictions.

Responsibility for reporting

Education and Infrastructure have not defined program and project reporting responsibilities. As a result, there are duplicated efforts, insufficient monitoring and reporting, and possibly inconsistent reporting.

Some progress has been made. Starting in August 2015, Education began receiving monthly updates from school jurisdictions on project progress, estimated funding requirements, project risks and completion dates. However, the role of Infrastructure in the monthly reporting from jurisdictions is not clear.

In 2014, Education and Infrastructure drafted a new MOU to fill some of these gaps, but they have not finalized it.

Coordination between Education and Infrastructure

Every approved capital project has a project manager at both Education and Infrastructure. The two departments need to coordinate extensively. An example is school design: Education is responsible for making sure that school designs meet approved grade configurations, capacity requirements and program needs, while Infrastructure actually completes the designs (or oversees them for projects that school jurisdictions manage).

The School Capital Manual defines the roles of Education, Infrastructure and the school jurisdiction for projects that Infrastructure manages, but not the policies or procedures to support the roles. With the exception of pre-tender estimates, no policies or procedures say what information Infrastructure must give to Education for review and approval for projects it manages.

Education and Infrastructure staff said policies and processes existed in some cases but were not documented. In other cases, procedures were supposed to be developed but were not. For example, there are no documented policies for managing project budgets.

Authority for making project and program decisions

Infrastructure has a comprehensive policy on who can make project decisions; Education does not. For phase 2 and 3 projects, the directors in Education's Program and System Support Division approved Infrastructure's project budgets. There was no documentation to confirm they had the authority to approve these budgets. The division has the most knowledge of projects, but the Strategic Services and Governance Division is responsible for the capital budget and expenditures. Its nine staff have financial authority over the budget for the $4 billion school-building program. However, there is not a policy that defines financial authority limits for these staff.

Implications and risks if recommendation not implemented

Without a clear framework for program governance, departmental roles and responsibilities will continue to be unclear and processes will be inefficient and ineffective.

Planning and approving new schools and modernizations to existing schools

Background

Each year, school jurisdictions must assess their school capital needs and rank proposed capital projects, including new schools, replacements and modernizations. Then they must give Education a three-year capital plan identifying their highest capital priorities, and a 10-year facilities plan identifying long-term capital and technology needs.

The School Capital Manual requires school jurisdictions to discuss all high-priority, new or replacement projects with municipalities before submitting the capital project in their plan. This is to ensure sites have been identified and services are available. Jurisdictions must also give Education a site readiness checklist for new or replacement schools in the first year of their three-year capital request. The checklist gives Education information on land titles, zoning, topography, land assessments, road access, services and any site concerns.

Education then requests capital funding through the process outlined above on page 8 in the "How schools are built" section. The process is complex. It requires Education, school jurisdictions and

municipalities to work together to ensure that sites are ready when Treasury Board announces capital funding for schools.

RECOMMENDATION 2: IMPROVE THE PLANNING AND APPROVAL PROCESS

We recommend that the Department of Education improve project approvals for new schools and modernizations by:

- implementing a gated approval process
- identifying the approval gates, required deliverables and responsibilities for completion of the deliverables

Criteria: the standards for our audit

The departments' school-building process should include a gated approval process with clear deliverables at each approval gate.

Our audit findings

KEY FINDINGS

- Education does not use a gated project-approval process with defined deliverables.
- Ministers approved projects and announced completion dates before projects were sufficiently planned, and in some instances school sites were not ready.

Approval process for projects

Common practice in industry and government is to plan projects in stages. When an entity identifies a capital need, it will normally do a feasibility study before a project receives full funding approval and proceeds to design. Preliminary planning helps entities to understand project scope, including alternatives, and to establish a project schedule and budget. Since the community's needs are also important when a new school or modernization is being planned, preliminary planning provides an opportunity for school jurisdictions to consider those needs.

Education's and Treasury Board's approval process for phase 2 did not separate approval for preliminary planning from full project approval. School jurisdictions learned Education had approved a new school or modernization only when the full project was approved.

For phase 3 projects, Education did approve preliminary planning funds; however, on the same day that the premier[14] and the ministers of Education[15] and Infrastructure[16] announced funds, Infrastructure also publicly committed to completion dates.

Completing preliminary planning, including preparing the school site, requires time and money. School jurisdictions and municipalities may be reluctant to do preliminary planning and invest time and money if they do not know whether Education will approve a new school or modernization.

Planning for new schools

The School Capital Manual says that any school jurisdiction wishing to submit a capital project in its three-year plan must first ensure sites are identified and municipalities have serviced the site. Our review of the site readiness checklist for a sample of new schools from phases 2 and 3 found:

- a few projects had no sites
- a few sites were not zoned for a school

[14] The Honourable Jim Prentice, Premier of Alberta, September 2014 to May 2015.
[15] The Honourable Gordon Dirks, Minister of Education, September 2014 to May 2015.
[16] The Honourable Manmeet Bhullar, Minister of Infrastructure, September 2014 to May 2015.

- some sites were not serviced
- several sites had no environmental assessment, and it was not known if environmental concerns existed
- some sites had no geotechnical assessment completed, and it was not known if geotechnical concerns existed

For a few of the sampled new schools, school jurisdictions never provided the site readiness checklist to Education. For one new school, the jurisdiction provided the checklist after the Minister of Education had approved the new school.

In 2012, Education completed a review to understand the challenges of school sites and to identify guidelines, tools and best practices. Education drafted guidelines that included clearer roles and responsibilities and some site readiness requirements. The guidelines included several recommendations, including the need to enable long-term and integrated planning of school sites. Three years later, the guidelines are still not finalized, and it is not clear who will approve or implement the recommendations.

Planning for modernizations

Education did not define the planning requirements (for project scope, estimated cost or schedule) that it or school jurisdictions had to complete before it would approve a modernization project. For some projects, Education completed the planning, but for others neither the department nor the school jurisdiction understood the scope until after ministers had announced a completion date. In one case, a project approved for $7 million grew to $37 million once a more thorough understanding of the project scope was reached.

Implications and risks if recommendation not implemented

Education will not deliver school projects on time, on budget or within the defined scope without an adequate planning process. If ministers make public commitments before sufficient planning is done, they reduce their likelihood of achieving these commitments; in some cases, they almost guarantee failure.

Project management controls

Background

The School Capital Manual requires school jurisdictions to obtain written ministerial approval before they start work on any capital project. Otherwise, Education will not fund the project. Education, Infrastructure and school jurisdictions need to agree on project expectations. They can use change-management systems to request and approve any changes to these expectations. For projects managed by school jurisdictions, the deliverables by planning stage are outlined in the School Capital Manual and grant agreements. Jurisdictions must submit specific project deliverables and receive approval. For some planning stages, jurisdictions need approval from Education and Infrastructure before they proceed to the next planning stage. For other planning stages, jurisdictions need approval only from Infrastructure.

RECOMMENDATION 3: IMPROVE SYSTEMS TO MANAGE AND CONTROL PROJECTS

We recommend that the Department of Education improve its systems to manage and control school-capital projects by:

- agreeing on project expectations promptly with school jurisdictions and Infrastructure, including scope, budget and key milestones
- developing and implementing change-management policies and procedures

RECOMMENDATION 4: IMPROVE SYSTEMS TO MANAGE AND CONTROL PROJECTS

We recommend that the departments of Education and Infrastructure improve the planning process by:

- identifying who must review and approve project planning deliverables and formally communicate these approvals to school jurisdictions or the Department of Infrastructure's contractors
- basing oversight of projects managed by school jurisdictions on risk

Criteria: the standards for our audit

The departments' school-building process should:

- have adequate systems to establish project expectations promptly and to manage significant changes to these expectations
- include project-planning stages with deliverables at each stage and have adequate controls to ensure the deliverables are completed before projects move to the next stage
- consider risk when assessing oversight

Our audit findings

KEY FINDINGS

- For projects managed by school jurisdictions, it took Education several months to provide approval letters to school jurisdictions and to finalize grant agreements. Grant agreements did not include key milestone dates.
- For projects managed by Infrastructure, Education and Infrastructure do not formally agree on project expectations other than the budget.
- Education does not have adequate systems to manage changes to project scope, schedule and budget.
- Both departments are supposed to approve project planning deliverables, but it is not clear what specific deliverables each department is supposed to approve.
- Both departments require school jurisdictions to provide the same deliverables for projects managed by school jurisdictions regardless of risk.

Project approvals and agreements

In a sample of phase 2 and 3 projects, we found delays in the approval process.

- For new phase 2 schools that were publicly announced, it took on average one month for Education to send the approval letter to the school jurisdiction after the government announced the project.
- For phase 2 projects that were managed by school jurisdictions, it took on average five months for Education to send the grant agreement to the school jurisdiction after sending the approval letter. Phase 2 was the first time Education used grant agreements for capital projects managed by school jurisdictions. Education and Infrastructure discussed scope and budget with school jurisdictions before sending the grant agreements, but formal communication took several months.
- For phase 3 projects that were managed by school jurisdictions and had planning funds approved, it took on average three and a half months for Education to give jurisdictions notification and approval of their planning budget after the project was announced.

For projects that school jurisdictions manage, grant agreements define and communicate project expectations. Phase 2 and 3 agreements included project scope and budget but lacked key milestones, including the school opening dates, even though those dates were important to Education. School jurisdictions did not otherwise agree on an opening date. Jurisdictions may need these agreements before they start work, so project delays may occur if they do not receive these agreements promptly.

For projects managed by Infrastructure, Education has no formal project agreement with Infrastructure on scope or schedule. For phase 2 projects, the departments formally agreed on the project budget. However, it took until May 2015 to reach this agreement, over a year after the Minister of Education approved the projects.

Change-management systems

Formal change-management[17] processes between Education, Infrastructure and school jurisdictions are incomplete. Education lacks change-management policies and procedures. For changes to scope, schedule or budget, it is not clear what information school jurisdictions or Infrastructure must submit, nor is it clear to whom these should be submitted or who decides whether the change will be approved. In November 2015, Education and Infrastructure developed a post-tender change-approval process for projects managed by Infrastructure.

In the sample of projects we examined, school jurisdictions requested significant changes to project scope or budget for several of them. Some had significant effects on project scope, schedule and budget. It took Education, and in some cases Treasury Board, between one and four months to approve these requests. In one case, it took Education 11 months to tell the school jurisdiction to stop the project after the department had noticed a very large cost increase ($7 million to $37 million).

Approval of planning deliverables

For projects managed by Infrastructure, it is not clear what planning deliverables, if any, Infrastructure must give Education for approval.

Jurisdictions need approval from Education and Infrastructure for planning deliverables, but it is not clear what deliverables or parts of deliverables each department is responsible to review.

We tested a sample of projects that were past the schematic-design planning stage. School jurisdictions did not give Infrastructure the schematic design for a few projects. For the other projects, in most cases we could not find evidence that Infrastructure had approved the schematic design or the project proceeding to the next design stage. We could not find evidence that Education had approved any of the schematic designs. Although there was evidence that both departments were involved in the review of the schematic designs, neither department formally communicated the design approval to school jurisdictions and Infrastructure's contractors.

Oversight of projects

For projects that school jurisdictions manage, the departments apply the same reporting oversight to all projects, regardless of risk. Education and Infrastructure should assess whether all capital projects need the same degree of oversight: presumably not, since jurisdictions' capacities vary.

Implications and risks if recommendation not implemented

Both departments will be unable to hold each other or school jurisdictions accountable for results without clear and efficient operational processes to establish project expectations, approve and change projects, review project planning and provide project oversight.

[17] Change-management—processes to manage and authorize proposed changes to project scope, budget or schedule.

Reporting on the program

Background

Project status reports are key parts of project communication, as they:

- compare progress with plans in a regular, formalized way
- inform stakeholders of project schedule, cost and risks
- help management understand and mitigate project risks

In October 2014, Infrastructure published a report on the status of the phase 2 projects and announced estimated school opening dates for the phase 3 projects. In March 2015, Infrastructure launched a website to report the status of projects monthly, including school opening dates. The October 2014 report and school website were created in response to the government's commitment to improve transparency.

RECOMMENDATION 5: IMPROVE REPORTING SYSTEMS AND CONTROLS

We recommend that the Department of Infrastructure improve its systems for publicly reporting on the status of school capital projects.

RECOMMENDATION 6: IMPROVE REPORTING SYSTEMS AND CONTROLS

We recommend that the Department of Education define and report on the key performance indicators of the school-building program.

RECOMMENDATION 7: IMPROVE REPORTING SYSTEMS AND CONTROLS

We recommend that the departments of Education and Infrastructure improve reporting on the school-building program by:

- defining reporting requirements, including measures to assess project performance
- using a common reporting system that specifies where information will be retained, who will update it and how it will be updated

Criteria: the standards for our audit

The departments should:

- ensure that publicly reported estimated milestones are reasonable and supported by project schedules
- report adequately on the status of the school-building program, including cost, key milestones and significant risks

Our audit findings

KEY FINDINGS

- Infrastructure publicly reported school opening dates without confirming them with school jurisdictions or having project schedules to support the announced dates. Further, it did not have a rigorous process to review and approve school-building program reports before posting them on its website.
- Education does not have key performance indicators to assess the results of the school-building program, and it does not report on program risks. It has not defined the periodic reporting it requires from Infrastructure to manage the program.
- Education and Infrastructure lack a scheduling system to track, manage and report on school projects, and its internal reports lack measures to assess project cost and schedule performance.

Reporting for phases 2 and 3 was inadequate for management to understand the status of the overall program or individual projects in the program. Poor reporting systems and practices meant management did not understand until late September 2015 how many phase 2 and 3 projects would miss their original anticipated opening dates and how late they would be.

Public reporting on school openings

School jurisdictions decide when schools will open, but Infrastructure reported estimated opening dates, both internally and publicly, without confirming them with school jurisdictions. Since August 2015, Education has received monthly updates from school jurisdictions on the opening dates for projects that jurisdictions manage but not for projects that Infrastructure manages. Infrastructure does not use the information received from school jurisdictions in its public reporting.

Infrastructure relies on manual processes to produce public reports, with many inputs from various spreadsheets. Infrastructure management reviews the public reporting, but there was no formal approval of the final report before the department posted it on the website. In February 2016, Education and Infrastructure implemented a formal review and approval process for public reports.

We expected that Infrastructure would support the publicly reported estimated opening dates with project schedules that considered current project status, project complexities and estimated timeframes for remaining activities. Infrastructure estimated opening dates from third-party project schedules, if available, or used general assumptions to forecast the date. Generally, it did not adjust opening dates until it had verified information, which in some cases it did not receive until construction had started.

We tested a sample of phase 2 projects in the October 2014 report. Infrastructure did not have a project schedule for most of them. In the March 2015 website reporting, Infrastructure still did not have a project schedule for several of these phase 2 projects.

In October 2014, Infrastructure announced estimated school opening dates for the phase 3 projects. Infrastructure did not have project schedules to support these dates. Infrastructure management used general assumptions to make estimates. We tested a sample of phase 3 projects in the March 2015 website reporting and found that Infrastructure still did not have schedules for any of the projects.

Some projects were at risk of not meeting the announced opening dates, but the monthly website report did not say this.

School-building program reporting

Education did not define the periodic reporting it needed from Infrastructure to oversee the school-building program. Education and Infrastructure discuss specific project concerns, but Education did not receive standard reporting from Infrastructure on project status, besides projects that went over budget, until March 2015—over a year after the phase 2 projects had started. Only in July 2015 did Education start receiving Infrastructure reports on project risks.

School jurisdictions manage approximately 60 per cent of phase 2 and 3 projects, but neither Education nor Infrastructure received periodic project management reporting from them on the status of their projects until August 2015. Education has since established monthly reporting requirements for projects managed by school jurisdictions.

Education has extended the school jurisdiction requirement for monthly reporting to require the same on projects managed by Infrastructure. This monthly reporting is a significant improvement. In

November 2015, Education created the first comprehensive report for senior management on the status of the school-building program, including budget and schedule. The report is good and includes information on the program's budget and committed funding along with the status of school opening dates and project progress. But the report lacks key performance indicators to assess the results of the program. For example, the report does not include indicators to assess cost or schedule performance. It also lacks a program risk assessment and mitigation strategies.

The departments are validating the reasonability and accuracy of project data they are receiving. The validation initiative is currently underway.

Internal reporting systems

To monitor the status of the school projects, Infrastructure produces weekly and monthly project reports for its senior management. The reports classify schedule and cost risks and describe the risk. But the impact of the risk on schedule or cost is not clear. Infrastructure has not defined measures for assessing and reporting project cost or schedule performance, and it does not have internal reporting guidelines. In the weekly emerging issues report, several projects we tested did not accurately report potential delays to the completion date.

Infrastructure lacks an adequate scheduling system to manage and report on the school-building program. For example, Infrastructure relies on school jurisdictions and contractors for schedules. Key milestones from these schedules are not stored in a scheduling system. And while school jurisdictions must provide schedules at various times during the project planning, they do not always do so. Nor are other key milestones, including a school opening date, always in a schedule; standard milestones are not explicitly required.

Infrastructure oversees projects that school jurisdictions manage, but its role in monthly project status reporting by jurisdictions to Education is not clear. The departments may be tracking the same or similar information in multiple systems, and the systems may not match.

Between Education and Infrastructure, project budgets and expenses are tracked in multiple systems. The same information is often input several times. In 2012, Education recognized that it and Infrastructure needed a shared solution to better plan, monitor and report on school infrastructure projects. Education approved a business case, but lack of funding meant the project did not proceed.

Implications and risks if recommendation not implemented

Poor reporting systems result in delayed understanding of revised school openings and inaccurate public and internal reports on the status of school projects.

Funding approved in the government's fiscal plan

Background

In March 2015, the government released a 2015–2020 fiscal plan. It included $1.8 billion for phase 2 schools and $2.0 billion for phase 3 schools, over five years. The government allocated $646 million of the phase 2 funding and $103 million of the phase 3 funding to 2015–2016.[18]

The funding allocation in each year is important, because under the *Financial Administration Act*[19] departments can spend only as much money as is voted for in the current-year plan. If the Legislative

[18] Budget 2015, Fiscal Plan 2015–2020, released March 26, 2015, page 48.
[19] RSA 2000, Chapter F-12.

Assembly had approved the March 2015 fiscal plan, Education could spend a total of $749 million for phase 2 and 3 schools in 2015–2016. If Education wanted to move funding forward to the current year, it would need Treasury Board's approval.

Although the government released the March 2015 fiscal plan, the Legislative Assembly did not approve the plan because of the change in government. Instead, the Legislative Assembly approved an interim supply vote in March 2015 for the period April 2015 to June 2015 and a second interim supply vote in June 2015 for July 2015 to November 2015. Education's interim supply votes included $800 million in 2015–2016 for all capital funding.

RECOMMENDATION 8: MATCH CAPITAL FUNDING TO PROJECT PROGRESS

We recommend that the Department of Education improve its cash-flow forecasting systems and ensure capital funding requests are supported by assumptions tied to project progress.

RECOMMENDATION 9: SUBMIT REVISED PLAN FOR APPROVAL

We recommend if Treasury Board adjusts the Department of Education's funding request, the Department of Education should submit its revised school-building program plan to the Treasury Board for approval. The revised plan should align with the approved funding and should clearly identify the impact on project progress.

Criteria: the standards for our audit

The department's capital budget should match the expected timeframe for delivering school projects.

Our audit findings

KEY FINDINGS

- For phase 3 schools, the publicly reported October 2014 project milestones did not align with the funding included in the March 2015 fiscal plan for the 2015–2016 fiscal year. In other words, construction needed to occur in 2015–2016 to meet the published completions dates, but there was no funding in the fiscal plan to pay for construction in 2015–2016.
- We could not tell if funding for phase 2 capital projects, based on published schedule milestones in October 2014, was sufficient. There was no supporting documentation.

In December 2014, Education anticipated needing less funding in 2014–2015 for phase 2 schools, compared to its budget, and requested Treasury Board move $170 million in approved funding from 2014–2015 to 2015–2016. Treasury Board approved this request. Education could not provide us with documentation of the funding or project schedule assumptions used to request this adjustment.

March 2015 fiscal plan

In the fiscal plan released in March 2015, Treasury Board moved $860 million in approved funding (about $560 million from phase 2 schools and $300 million from phase 3) from 2015–2016 to future years. Education could not give us any documentation of the assumptions used to make the $860 million in adjustments.

The Minister of Education[20] informed the Minister of Finance and President of Treasury Board[21] that, in spite of the cash-flow reduction, phases 2 and 3 were still needed. The Minister of Education expected

[20] The Honourable Gordon Dirks, Minister of Education, September 2014 to May 2015.
[21] The Honourable Robin Campbell, Minister of Finance and President of Treasury Board, September 2014 to May 2015.

that if progress for phases 2 and 3 matched projections, opportunities would be available in 2015–2016 to revisit cash flows without compromising the delivery of schools.

Treasury Board did not tell Education whether phase 2 and 3 projects were proceeding as planned. Further, it did not provide direction on what to do if funding fell short. Funding in the 2015–2016 fiscal plan, released in March 2015, was not sufficient for phase 3 and did not match the schedule milestones published in October 2014. In that month, Infrastructure estimated that 70 of the 75 phase 3 schools would start construction in 2015–2016. Except for funding to construct eight starter schools, no other construction funding was provided in the March 2015 fiscal plan for 2015–2016.

Table 1: March 2015 fiscal plan—Phase 2 funding in millions

Phase 2	2014/2015 $	2015/2016 $	Future years (2016/2017–2019/2020) $	Total (2015/2016–2019/2020) $
Funding approved by Treasury Board in August 2014	742	1,036	481	1,517
Change in funding after Treasury Board approved Education's December 2014 request to move funding	(170)	170		170
Change in funding after funding is moved (in January–March 2015) to future years	(162)	(560)	721	161
Total: March 2015 fiscal plan	**410**	**646**	**1,202**	**1,848**

Table 2: March 2015 fiscal plan—Phase 3 funding in millions

Phase 3	2014/2015 $	2015/2016 $	Future years (2016/2017–2019/2020) $	Total (2015/2016–2019/2020) $
Funding approved by Treasury Board in August and October 2014 for starter schools and emergent needs	50	70		70
Planning funds approved by Treasury Board in October 2014	10	33		33
Remaining funding for phase 3 approved by Treasury Board in November 2014		300	1,700	2,000
Change in funding after funding is moved (in January–March 2015) to future years		(300)	200	(100)
Total: March 2015 fiscal plan	**60**	**103**	**1,900**	**2,003**

Funding after March 2015

In June 2015, Education briefed its minister on the 2015–2016 cash flow problem and identified a $433 million funding shortfall for the fiscal year. In July 2015, the Minister of Education[22] notified the Minister of Finance and President of Treasury Board[23] of a shortfall, then estimated by Education at a total of $300 million for phases 2 and 3. In August 2015, Treasury Board authorized Education to move about $310 million from future years into the 2015–2016 fiscal year. Education could not give us documentation of the funding or project schedule assumptions used to estimate the $300 million needed.

Because of a change in funding approach and forecasted progress on school projects, Education no longer anticipates needing the $310 million in 2015–2016. Previously Education provided capital funding to school jurisdictions at specific project stages. For example, when school jurisdictions awarded the construction contract, Education would advance school jurisdictions 30 per cent of the approved project budget. In August 2015, after Education requested Treasury Board move $300 million in funding back to 2015–2016, Education notified school jurisdictions that it was changing the funding model for jurisdiction-managed projects. Education now funds jurisdictions as they incur the expenses.

Since the March 2015 fiscal plan did not include any funding for construction of phase 3 schools (except for the eight starter schools), Education was uncertain if it could authorize either school jurisdictions or Infrastructure to proceed with projects. It was not until August 2015 that Education received direction from Treasury Board to proceed with phase 3 projects.

The uncertainty over funding in the 2015–2016 fiscal year likely delayed progress on some projects. We have not quantified how many projects were delayed or by how long. In some cases, school jurisdictions chose to take additional risk and started construction without approved funding. In other cases, jurisdictions and Infrastructure waited, reluctant to start planning until projects had full funding approval.

Implications and risks if recommendation not implemented

Without adequate systems to estimate funding, Treasury Board will not have confidence in Education's cash-flow forecasts, and the government's fiscal plans may have insufficient funding, so projects could be delayed or cancelled.

[22] The Honourable David Eggen, Minister of Education, May 2015 to present.
[23] The Honourable Joe Ceci, Minister of Finance and President of Treasury Board, May 2015 to present.

Appendix A

SCHOOL-BUILDING PROCESS—NEW SCHOOLS, REPLACEMENTS AND MODERNIZATIONS

Project delivery approach

School jurisdictions must have approval from Education and Infrastructure on the project delivery approach. Common approaches include design-bid-build, design-build and construction management.

Start-up

- Before a project starts, a school jurisdiction must give Infrastructure the names of the project design team members, including the project prime consultant and sub-consultants, and a project schedule.
- A school jurisdiction must hire a prime consultant, usually the architect or engineer that designs the largest part of the work.

Schematic design

- School jurisdictions must give Education drawings to ensure that a school will hold all the anticipated students and will meet its needs.
- School jurisdictions must also give Infrastructure drawings, cost plans, design briefs and project reports for its approval.
- If Education and Infrastructure both approve the drawings, cost plans, etc., then jurisdictions can create working drawings. If the scope or budget deviate from the design drawings, jurisdictions will have to submit interim reports.

Pre-tender/construction drawings

At least four weeks before tendering a project, school jurisdictions must give Infrastructure a pre-tender report and estimate. If a project is over budget, the jurisdiction must identify additional funding, and Education must approve it. Infrastructure has to approve the project to proceed to the tender stage.

Tender

School jurisdictions must submit a tender package to Infrastructure. Then there is a 60-day tender-acceptance period. Contracting requirements vary with contract value. For example, contracts over $200,000 must comply with various trade agreements, and Infrastructure must approve the contract before the school jurisdiction awards it.

Construction

School jurisdictions must:

- submit a copy of the Certificate of Substantial Completion to Infrastructure within 15 days of issuance by the prime consultant
- obtain copies of drawings and operations and maintenance manuals from the prime consultant
- provide plans to Education and Infrastructure once the building is occupied

Close out

School jurisdictions must submit a Statement of Final Costs within 24 months of the date of substantial completion. Otherwise, they will not receive the remaining funding. School jurisdictions can apply to Education to extend the deadline.

The stages are similar for projects managed by Infrastructure.

Other information

Understanding school modernization needs and solutions can be complex. Each project is unique. Modernizations can involve upgrading or replacing aging infrastructure as well as improving facilities to meet current and future needs. The project schedule for a modernization can be complex. A jurisdiction may decide to keep the school open and complete the modernization in stages—but it may instead decide to close the school, while the modernization takes place, and move children to a temporary location.

Replacement projects usually involve demolishing an existing school and building a new one.

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